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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/719,138	02/08/2001	Hirokazu Fujino	0020-4783P	5320

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BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

LEO, LEONARD R

ART UNIT PAPER NUMBER

3753

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/719,138	<b>Applicant(s)</b> FUJINO ET AL.	
	<b>Examiner</b> Leonard R. Leo	<b>Art Unit</b> 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 August 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3 and 6-9 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6, 7 and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The amendment filed on August 12, 2004 has been entered. Claims 3 and 6-9 are pending, and claims 3 and 8 remain withdrawn.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al (US) in view of Schuez et al.

Ishikawa et al (US) discloses all the claimed limitations except secondary grooves on the projected portions.

Schuez et al discloses a heat-transfer pipe comprising a plurality of grooves 3 and projection portions 2 having a plurality of secondary grooves 5 (Figures 6a-6e) for the purpose of improving heat exchange.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Ishikawa et al (US) secondary grooves for the purpose of improving heat exchange as recognized by Schuez et al.

Claims 6-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (10-300379) in view of Schuez et al.

Sasaki et al (10-300379) (Figure 6b, 6d or 7b) discloses all the claimed limitations except secondary grooves on the projected portions.

Schuez et al discloses a heat-transfer pipe comprising a plurality of grooves 3 and projection portions 2 having a plurality of secondary grooves 5 (Figures 6a-6e) for the purpose of improving heat exchange.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Sasaki et al (10-300379) secondary grooves for the purpose of improving heat exchange as recognized by Schuez et al.

Regarding claims 6-7, the similar structured device of the combination Sasaki et al (10-300379) and Schuez et al is believed to be manufactured in a manner similar to applicants' claimed invention. Figure 8 of Sasaki et al (10-300379) is particularly pertinent.

#### ***Response to Arguments***

The rejection in view of Ishikawa et al (10-47880) is withdrawn, since the claims recite "each set of corresponding grooves forming individual V-shapes by their intersection." Ishikawa et al (10-47880) does not disclose one-to-one groove correspondence forming V-shapes by their intersection.

Applicant's arguments have been fully considered but they are not persuasive.

With respect to Ishikawa et al (US), the Examiner agrees there is a region W3 between rows W1 and W2. However, this region is not a "row of grooves" as claimed. The claim does not preclude additional structure to be read on the read, since the open-ended language of "comprising" is recited. Furthermore, the region W3 could be read as a portion of one of the rows W1 and W2. Extensions or imaginary lines of the plurality of grooves in the respective first and second rows W1 and W2 intersect at the region W3 to form V-shaped patterns.

With respect to the secondary reference of Schuez et al, the previous and instant Office actions refer to Figures 6a-6e of Schuez et al. However, Figure 2 is equally representative of the teaching of Schuez et al. The fine grooves 5 having a small width compared to the height H of the projected portions 2. The fine grooves 5 extend from one side to the other side of the projected portion 2. In fact, the fine grooves are aligned on opposite side surfaces of the projected portion 2. The claims do not recite the fine grooves extending the entire height of the projected portions.

With respect to Sasaki et al, as explained above with respect to Ishikawa et al (US), the region 14 is not a "row of grooves" as claimed. The claim does not preclude additional structure to be read on the read, since the open-ended language of "comprising" is recited. Furthermore, the region 14 could be read as a portion of one of the rows 12 (narrow width) and 12 (wide width). Extensions or imaginary lines of the plurality of grooves in the respective first and second rows 12 intersect at the region 14 to form V-shaped patterns.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,


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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on (571) 272-4930. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



LEONARD R. LEO  
PRIMARY EXAMINER  
ART UNIT 3753

November 28, 2004